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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,344	11/25/2003	Alison J. McMillan	84714 3052 TAL	3908

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EXAMINER	
LIEW, ALEX KOK SOON	

ART UNIT	PAPER NUMBER
2624	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/720,344	MCMILLAN ET AL.	
	Examiner	Art Unit	
	Alex Liew	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 September 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

The amendment filed on September 11, 2007 is entered and made of record.

Response to Applicant's Arguments

On page 8, the applicant stated:

Therefore, the present invention is directed to speeding up the computer's analytical process when identifying regions of interest by utilizing a compression technique. During the compression phase, the present invention's computer system automatically selects a variable with a high rate of change in order to indicate to the user a region of interest. Similarly, the computer system also automatically selects a variable with a low rate of change in order to indicate to the user a region of lesser interest. This alleviates the need for a user to interact with the system and results in a more time efficient process ...

ATSUMI et al. (US 6801665) discloses a method and apparatus of performing image compression wherein a region of interest specified by the user is emphasized so that it is encoded with higher fidelity than the rest of the image (Column 4, lines 55-61). Therefore it is apparent that a user must identify the regions of interest and plug those region into the system during the beginning or from the middle, of the encoding process ... It should be noted that ATSUMI et al. fails to teach or disclose an apparatus automatically selecting a variable as well as an apparatus relating the regions of interest to a region with a high rate of change of the variable ...

The applicant is correct, where Atsumi does not teach a computer automatically selects a variable with a high rate of change. However, in a new search, Tsap (US pub no 2001/0040997) discloses a computer automatically selects a variable with a high rate of change (see figure 3, step 310, in this case, the elasticity is read as the variable). In the prevent invention, examples of the 'variable' areas are geometric region which can be measured, such as the stress field and a deformation rate (see paragraph 44, E is the defined as change in stress change over change in force per unit; see paragraph 47, [G] is the deformation gradient

matrix). One skilled in the art would include stress field and deformation parameters because to examine the material properties of a non-rigid object, to improve quality control of manufacturing object (see paragraph 2).

The examiner will include Tsap reference into Atsumi for rejection of claim 1. Atsumi and Tsap are combinable because both reference searches an image to find the region of interest and performing image analysis on the region.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 17 – 19, 23 – 27, 31 and 32 are rejected under 35 U.S.C. 102(e) as being anticipated by Atsumi (US pat no 6801665).

With regards to claim 17, Atsumi discloses a computer system programmed to process a large data set includes means for applying a data compression technique to the data set and means for analyzing the compressed data set such that the analysis has high fidelity in regions of interest and has

lower fidelity in regions of lesser interest (see figure 1, 104 and 105, the user selects region of interest which has more fidelity which are then compressed at 107 and 108).

With regards to claim 18, Atsumi discloses a computer system as claimed in claim 1, wherein data compression technique comprises the use of a wavelet compression technique (see figure 1, 101).

With regards to claim 19, Atsumi discloses a computer system as claimed in claim 1, wherein the data compression technique produces a high fidelity in geometric regions of interest at points in time of interest (see figure 9, where the geometric region of interest is a square).

With regards to claim 23, Atsumi discloses a computer system as claimed in claim 1, wherein means for analyzing the data set comprises a means for finite element analysis (see figure 9 – the region of interest has finite number of elements).

With regards to claim 24, Atsumi discloses a local work station and a graphical display is produced at the local workstation (see figure 18, element 812 is a local work station display).

With regards to claim 25, see the rationale and rejection for claim 17.

With regards to claim 26, see the rationale and rejection for claim 18.

With regards to claim 27, see the rationale and rejection for claim 19.

With regards to claim 31, see the rationale and rejection for claim 23.

With regards to claim 32, see the rationale and rejection for claim 24.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 – 4, 7, 9, 12, 15, 16, 20 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Atsumi (US pat no 6801665) in view of Tsap (US pub no 2001/0040997).

With regards to claim 1, Atsumi discloses a computer system programmed to process a large data set includes means for analyzing the data set and means for applying a data compression technique to the analyzed data set such that the

compressed analyzed data set has high fidelity in regions of interest and has lower fidelity in regions of lesser interest (see figure 1, 104 and 105, the user selects region of interest which has more fidelity which are then compressed at 107 and 108). Atsumi does not disclose selecting a variable from the data set. Tsap discloses means to select a variable from the data set such that a high rate of change of the variable indicates the regions of interest and a low rate of change of the variable indicates the regions of lesser interest (see paragraph 44, E is the defined as change in stress change over change in force per unit; see paragraph 47, [G] is the deformation gradient matrix). One skilled in the art would include stress field and deformation parameters because to examine the material properties of a non-rigid object, to improve quality control of manufacturing object (see paragraph 2).

Atsumi and Tsap are combinable because both reference searches an image to find the region of interest and performing image analysis on the region.

With regards to claim 2, Atsumi discloses a computer system as claimed in claim 1, wherein data compression technique comprises the use of a wavelet compression technique (see figure 1, 101).

With regards to claim 3, Atsumi discloses a computer system as claimed in claim 1, wherein the data compression technique produces a high fidelity in geometric regions of interest at points in time of interest (see figure 9, where the geometric region of interest is a square).

With regards to claim 4, an extension to the arguments of claim 3, Tsap discloses geometric region has a rapid change in the stress field (see figure 6, area 602 maybe stretch to a degree where stress will occur).

With regards to claim 7, Atsumi discloses a computer system as claimed in claim 1, wherein means for analyzing the data set comprises a means for finite element analysis (see figure 9 – the region of interest has finite number of elements).

With regards to claims 9, see the rationale and rejection for claim 1.

With regards to claim 10, see the rationale and rejection for claim 2.

With regards to claim 11, see the rationale and rejection for claim 3.

With regards to claims 12, 20 and 28, see the rationale and rejection for claim 4.

With regards to claim 15, see the rationale and rejection for claim 7.

With regards to claim 8 and 16, see the rationale and rejection for claim 24.

3. Claims 5 and 13 are rejected U.S.C. 103(a) as being unpatentable over Atsumi ('665) in view of Tsap ('997) as applied to claim 1 further in view of Ransford (US pat no 5,490,221).

With regards to claim 5, Atsumi discloses all the limitations discussed in claim 1, but does not disclose analyzing data set which are 4D as described on page 1 of the specification lines 12 – 15. Ransford discloses analyzing data set, which are 4D data set (see figure 2 – 20 and 22). One skilled in the ordinary art would include analyzing data set, which are 4D because to obtain greater details of the region of interest by including three dimensional data, to improve recognition of the region of interest in the image.

With regards to claim 13, see the rationale and rejection for claim 5.

4. Claims 21 and 29 are rejected U.S.C. 103(a) as being unpatentable over Atsumi ('665) as applied to claim 17 further in view of Ransford (US pat no 5,490,221).

With regards to claims 21 and 29, see the rationale and rejection for claim 5.

5. Claims 6 and 14 are rejected U.S.C. 103(a) as being unpatentable over Atsumi ('665) is view of Tsap ('997) as applied to claim 1 further in view of Board (US pat no 6499350).

With regards to claim 6, Atsumi and Tsap disclose all the limitations discussed in claim 1, but do not disclose analyzing data set of a fan blade containment analysis of a casing when a fan blade impacts a foreign object during use. Board discloses analyzing data set of a fan blade containment analysis of a casing when a fan blade impacts a foreign object during use (see column 3, lines 50 to 56). of detecting defects because to find the shape and size of these regions to find the best compression ratio to compress the data where no desired data allowing the user to store more compressed data.

With regards to claim 14, see the rationale and rejection for claim 6.

6. Claims 22 and 30 are rejected U.S.C. 103(a) as being unpatentable over Atsumi ('665) as applied to claim 17 further in view of Board (US pat no 6499350).

With regards to claims 22 and 30, see the rationale and rejection for claim 6.

7. Claims 33 – 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Atsumi ('665) in view of Tsap ('997) and Sato (US pat no 5640462).

With regards to claim 33 to 36, see the rationale and rejection for claims 1 and 8. In addition, Atsumi and Tsap do not disclose presenting the most significant cross-sectional, wherein said most significant cross-sectional views contains at least one of a stress, deformation rate or other variable above a threshold. Sato discloses selecting the most significant cross-sectional, wherein said most significant cross-sectional views contains at least one of a stress, deformation rate or other variable above a threshold (see column 9, lines 38 to 43, the detected portion with a defect is read as the most significant area, and a cross section is taken at the defect location; the pixel values representing a defect appearing in an image will be greater that than adjacent pixels indicating a random edge). One skilled in the art would include presenting the most significant cross-sectional area because to allow the operator to perform necessary steps to correct the defect, further improving inspection process.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex Liew whose telephone number is (571)272-8623. The examiner can normally be reached on 9:30AM - 7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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